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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,397	04/26/2005	Eiji Oki	5259-052/NP	1591
27572 7590 10/12/2010 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
EXAMINER				
PHAM, TITO Q				
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2466				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/533,397

**Applicant(s)**

OKI ET AL.

**Examiner**

TITO PHAM

**Art Unit**

2466

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-22 and 24-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5,7-19,26,27 and 29-41 is/are allowed.
- 6) ☒ Claim(s) 1,3,6,20-22,24,25,28,42 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Applicant's arguments, see Remark, filed September 3, 2010, with respect to the rejection(s) of claim(s) 1, 3, 20-22, 25, 42, and 43 under Oki et al. (US Pub. No. 2003/0161633) in view of Imajuku et al. (US Pub. No. 2003/0147645) in view of Liu (XP-001174200) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hansen et al. (US Pub. No. 2004/0228331) in view of Okamoto (IEEE).

Claims 1, 3-22, and 24-43 are pending.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1, 3-19, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 lines 5-6 discloses "which constitutes the GMPLS network, and which processes a GMPLS protocol and an IP/MPLS protocol." It is unclear which element in the claim the phrase above modifies.

Claim 1 lines 7-8 discloses PSC and LSC. It is unclear what they are? Are they capabilities, structures, or functions? If they are important/critical to the claim, why aren't they included in the body of the claim?

Claims 3-19 and 21 are rejected for the same reason set forth in the independent claim above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 6, 20-22, 25, 28, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US Pub. No. 2004/0228331) in view of Okamoto (IEEE).

Regarding **claims 1 and 22**, Hansen discloses A GMPLS+IP/MPLS node (figure 23 node A, B, C, or D) which is used in a network in which a GMPLS (Generalized Multi Protocol Label Switching) network (figure 23 OTN network ABCD, paragraphs 79, 83, 102 and 103) and an IP (Internet Protocol) network (figure 23 network 1-6) are mixed (see figure 23), the GMPLS network comprising a node having a GMPLS function (paragraphs 54-56, 58, 59, 61), the IP network comprising an IP/MPLS (Internet Protocol/Multi Protocol Label Switching) node (figure 23 node 1, paragraph 100), and which constitutes the GMPLS network (figure 23 OTN/GMPLS network ABCD), and which processes a GMPLS protocol and an IP/MPLS protocol (paragraphs 100-102),

the GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable), and the GMPLS+IP/MPLS node comprising:

a device which establishes a GMPLS label path of a packet layer with another GMPLS+IP/MPLS node in the GMPLS network (figure 12, paragraphs 54-56, 58, 59, and 83);

a device which tunnel transfers a packet transferred from an IP/MPLS node, which does not match with the GMPLS protocol, with the other GMPLS+IP/MPLS node through the GMPLS label path (figure 12 and figure 23; paragraph 83).

Hansen does not teach a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) and a device which advertises link state information of the GMPLS label path of the packet layer to the IP/MPLS node in the same form as that of a link between IP/MPLS nodes by a router LSA (Label Switching Advertisement) so that the IP/MPLS node treats the GMPLS label path as a normal link between the IP/MPLS nodes.

However, Hansen further teaches IP router exchanges continuous topology information with one another through OSPF where every IP router obtains an update knowledge of the entire network's actual structure – image of this network is collected in a distributed database in every IP router. The database contain information on all the IP routers as information on the links which connection them mutually (paragraph 34 and 35). The IP routers are mutually connected through logical connections over the transport network (paragraph 29).

Okamoto discloses a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) (figure 1; page 53 first column lines 26-37). Okamoto further teaches OSPF and IS-IS are being advertised as traffic engineering (TE) link states to support GMPLS (page 55 second column lines 16-29).

Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to implement in Hansen a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) and a device which advertises link state information of the GMPLS label path of the packet layer to the IP/MPLS node in the same form as that of a link between IP/MPLS nodes by a router LSA (Label Switching Advertisement) so that the IP/MPLS node treats the GMPLS label path as a normal link between the IP/MPLS nodes. The motivation is for disjoint path calculation (page 55 lines 16-20).

Regarding **claims 3 and 25**, all limitations in claims 1 and 22 are disclosed above. Hansen does not teach a device which holds the link state information having the GMPLS label path of the packet layer advertised as the link; and a device which holds link state information inside of the GMPLS network. However, Okamoto discloses a device which holds the link state information having the GMPLS label path of the packet layer advertised as the link (page 54 first column lines 16-20); and a device which holds link state information inside of the GMPLS network (page 55 second column lines 16-29). Therefore it would have been obvious to one with ordinary skill in

the art at the time of the invention to implement in Hansen a device which holds the link state information having the GMPLS label path of the packet layer advertised as the link; and a device which holds link state information inside of the GMPLS network. The motivation is to have a record of neighbor link state for routing purpose.

Regarding **claims 6 and 28**, Hansen discloses A GMPLS+IP/MPLS node (figure 23 node A, B, C, or D) which is used in a network in which a GMPLS (Generalized Multi Protocol Label Switching) network (figure 23 OTN network ABCD, paragraphs 79, 83, 102 and 103) and an IP (Internet Protocol) network (figure 23 network 1-6) are mixed (see figure 23), the GMPLS network comprising a node having a GMPLS function (paragraphs 54-56, 58, 59, 61), the IP network comprising an IP/MPLS (Internet Protocol/Multi Protocol Label Switching) node (figure 23 node 1, paragraph 100), and which constitutes the GMPLS network (figure 23 OTN/GMPLS network ABCD), and which processes a GMPLS protocol and an IP/MPLS protocol (paragraphs 100-102), the GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable), and the GMPLS+IP/MPLS node comprising:

a device which establishes a GMPLS label path of a packet layer with another GMPLS+IP/MPLS node in the GMPLS network (figure 12, paragraphs 54-56, 58, 59, and 83);

a device which tunnel transfers a packet transferred from an IP/MPLS node, which does not match with the GMPLS protocol, with the other GMPLS+IP/MPLS node through the GMPLS label path (figure 12 and figure 23; paragraph 83).

Hansen does not teach a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) and a device which advertises link state information of the GMPLS label path of the packet layer to the IP/MPLS node in the same form as that of a link between IP/MPLS nodes by a router LSA (Label Switching Advertisement) so that the IP/MPLS node treats the GMPLS label path as a normal link between the IP/MPLS nodes, and a device which advertises the GMPLS label switch path of the packet layer as a link of a numbered system.

However, Hansen further teaches IP router exchanges continuous topology information with one another through OSPF where every IP router obtains an update knowledge of the entire network's actual structure – image of this network is collected in a distributed database in every IP router. The database contain information on all the IP routers as information on the links which connection them mutually (paragraph 34 and 35). The IP routers are mutually connected through logical connections over the transport network (paragraph 29).

Okamoto discloses a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) (figure 1; page 53 first column lines 26-37). Okamoto further teaches OSPF and IS-IS are being advertised as traffic engineering (TE) link states to support GMPLS (page 55 second column lines 16-29)



and a device which advertises the GMPLS label switch path of the packet layer as a link of a numbered system (page 55 second column lines 16-29 and page 54 first column lines 16-20: numbered system is the IP address of the IP router).

Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to implement in Hansen a GMPLS+IP/MPLS node including PSC (Packet Switching Capable) and LSC (Lambda Switch Capable) and a device which advertises link state information of the GMPLS label path of the packet layer to the IP/MPLS node in the same form as that of a link between IP/MPLS nodes by a router LSA (Label Switching Advertisement) so that the IP/MPLS node treats the GMPLS label path as a normal link between the IP/MPLS nodes. The motivation is for disjoint path calculation (page 55 lines 16-20).

**Claim 20** is rejected similarly as claim 1 above. Hansen further teaches the IP/MPLS comprises a device which holds link state information (paragraph 35).

Regarding **claims 21 and 42**, all limitations in claims 1 and 22 are disclosed above. Hansen further teaches the IP/MPLS comprises a device which holds link state information (paragraph 35).

Regarding **claim 43**, all limitations in claim 22 are disclosed above. Hansen further teaches the IP/MPLS comprises a device which holds link state information (paragraph 35), and the IP/MPLS transfers a packet (see figure 7).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US Pub. No. 2004/0228331) in view of Okamoto (IEEE) in view of Heiner et al. (US Pub. No. 2004/0203827).

**Claim 24** is rejected similarly as claim 1 above. Hansen does not disclose the router LSA is an Opaque LSA. However, Heiner discloses opaque LSA is utilized for link state advertisement (paragraph 6, 11, 28, 32). Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to implement in Hansen an Opaque LSA. The motivation is for application-specific purposes.

#### ***Allowable Subject Matter***

8. The indicated allowability of claims 6, 24, and 28 are withdrawn in view of the newly discovered reference(s) to Hansen et al. (US Pub. No. 2004/0228331), Okamoto (IEEE) and Heiner et al. (US Pub. No. 2004/0203827). Rejections based on the newly cited reference(s) above.

9. Claims 4, 5, 7-19, 26, 27, and 29-41 are allowed.

#### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sato et al. "GMPLS-Based Photonic Multilayer Router (Hikari router) architecture" discloses an edge GMPLS/IP node advertises link state information to other nodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TITO PHAM whose telephone number is (571) 272-4122. The examiner can normally be reached on Monday-Friday 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on 571-272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tito Pham/

Examiner, Art Unit 2466

/Daniel J. Ryman/

Supervisory Patent Examiner, Art Unit 2466